

Appl. No. 10/033,478
Amtd. Dated Jun. 15, 2005
Reply to Office Action of Mar. 15, 2005

Remarks

Claim Rejections under 35 U.S.C. 102

Claims 1-3 and 6-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Wood et al. (U.S. Pat. No. 6,396,975).

In response to the rejection, applicants now respectfully traverse as follows:

Regarding claim 1, the present invention in pertinent part recites an optical switch for switching optical signals between a plurality of input and output optical fibers that requires “a switching element ... having an optical component displaceable between a first and a second positions, ... whereby, when the switching element is in the first position, the optical component is in optical paths from the input collimators to the output collimators, and light beams from the input fibers transmit sequentially through the input collimators, the optical component, the output collimators, and then to the output fibers; and when the switching element is in the second position, the optical component is out of the optical paths, and light beams from the input fibers transmit through the input collimators, the output collimators, and to the output fibers without being bent or deflected by the optical component, to transmit to different output fibers.” Referring to FIGS. 5 and 6 of the present application, in the first position, the optical component assembly 61 is in a downward position, stopped against the first stopper 86 (see FIG. 1), and the optical component 612 aligns with the input and output collimators 81, 82, 91, 92. Light beams from the first and the second input fibers 41, 42 (see FIG. 1) transmit through the first and second input collimators 81, 82, respectively. Each light beam is transmitted through the optical component 612, and is bent along

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symmetrically opposite paths thereby, to pass through the second and first output collimators 92, 91 and into the second and first output fibers 52, 51 (see FIG. 1), respectively. Thus, according to the present invention, **the optical switch is capable of setting one optical component assembly to change two input light beams' paths simultaneously.**

In contrast, as shown in FIGS. 4b and 7a and understood by applicants, Wood discloses an optical switch including a first microelectronic substrate 12, an input lens 74 associated with an input fiber 72 and producing a collimated optical beam 16, a pop-up mirror 14 disposed on the substrate 12 and oriented at 45 degrees relative to the input fiber 72, a first output lens 76 associated with a first output fiber 78, a second output lens 80 associated with a second output fiber 82, a rotational magnetic field source disposed proximate the first microelectronic substrate 12 that actuates the pop-up mirror 14 from a non-reflective state to a reflective state, and a second microelectronic substrate 20 disposed in a fixed positional relationship relative to the first microelectronic substrate 12 and having a positioning structure 22 for positioning the pop-up mirror 14 in a reflective state. When the pop-up mirror 14 is in the non-reflective state, the optical beam passes over the pop-up mirror 14 and directly transmits to the first output lens 76 and associated output fiber 78; and when the pop-up mirror 14 is in the reflective state, the optical beam is reflected by the pop-up mirror 14 and transmits to the second output lens 80 and associated second output fiber 82. Thus, Wood's invention provides a **non-blocking, one-to-one operable optical switch that sets one switch element (pop-up mirror 14) to route the optical beam of one input fiber only, without involving the setting of other switch elements intended to route the optical beams of other input fibers (see col. 5, lines 3-7).** Accordingly, **Wood fails to teach or suggest the present invention as set forth in claim 1.**

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Accordingly, applicants submit that claim 1 is patentable over Wood under both s.102 and s.103. Withdrawal of the rejection and allowance of claim 1 are respectfully requested.

Claims 2-3 and 6-11 directly or indirectly depend from claim 1. Withdrawal of the rejection in relation to claims 2-3 and 7-11 is respectfully requested. Withdrawal of the rejection and allowance of claim 6 are respectfully requested.

If alternative argument is required, applicants request allowance of claim 6 rewritten in independent form including all the limitations of claim 1, as indicated under Allowable Subject Matter in the Office action.

Claim Rejections under 35 U.S.C. 103

Claims 2-3, 5, and 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. (U.S. Pat. No. 6,396,975).

In response to the rejection, applicants respectfully submit that Examiner has not pointed out the differences between Wood's invention and the claims of the present invention, as required by item 2. of *Graham v. John Deere Co.* cited by Examiner.

In these circumstances, applicants now respectfully traverse as follows:

Applicants submit that claim 1 is unobvious under 35 U.S.C. 103 over Wood. Applicants refer to and rely upon the above assertions regarding Wood and the s.102 rejection. Claim 1 recites an optical switch capable of setting one optical component assembly to change light paths of two

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input light beams simultaneously. However, Wood's invention provides a non-blocking, **one-to-one operable optical switch** that sets **one switch element (pop-up mirror 14)** to **route optical beam of one input fiber only**, without involving the setting of other switch elements intended to route optical beams of other input fibers (see col. 5, lines 3-7). Further, because Wood's invention is complete and self-sufficient in itself, Wood in effect teaches away from providing an optical switch capable of setting **one optical component assembly to change light paths of two input light beams simultaneously.**

Accordingly, a person of ordinary skill in the art could not reasonably have derived the optical switch of claim 1 of the present invention from a consideration of Wood. Applicants submit that claim 1 is unobvious and patentable over Wood under 35 U.S.C. 103.

The respective additional subject matter of claims 2-3, 5, and 7-11 does not bear on the above-asserted patentability of claim 1 over Wood. Accordingly, applicants submit that claims 2-3, 5, and 7-11, which directly or indirectly depend from claim 1, are also unobvious and patentable over Wood under 35 U.S.C. 103.

In summary, withdrawal of the rejection and allowance of claims 2-3, 5, and 7-11 are respectfully requested.

In view of the above remarks, the subject application is believed to be in a condition for allowance, and an action to such effect is earnestly solicited.

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Respectfully submitted,
Chien Cheng Chen
Kun-Tsan Wu

By 
Wei Te Chung

Registration No. 43,325
Foxconn International, Inc.
P.O. Address: 1650 Memorex Drive, Santa Clara, CA 95050
Tel. No.: (408) 919-6137